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# SILENT INVADERS

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2007



**KNOW THE ENEMY.  
PREVENT THE SPREAD  
OF NOXIOUS WEEDS.**

United States Department of Agriculture  
Forest Service  
Intermountain Region  
Humbolt-Toiyabe National Forest



# THE 10 LEAST WANTED ON



Spotted Knapweed



Houndstongue



Canada Thistle



Musk Thistle



Scotch Thistle

## AUSTIN/TONOPAH:

Canada Thistle  
Diffuse Knapweed  
Hoary Cress (Whitetop)  
Medusahead  
Musk Thistle  
Perennial Pepperweed  
Russian Knapweed  
Saltcedar  
Spotted Knapweed  
Bull Thistle

## CARSON/BRIDGEPORT:

Canada Thistle  
Dalmatian Toadflax  
Hoary Cress (Whitetop)  
Medusahead  
Musk Thistle  
Perennial Pepperweed  
Scotch Thistle  
Spotted Knapweed  
Common St. Johnswort  
Yellow Starthistle

## JARBIDGE/RUBY MOUNTAINS:

Canada Thistle  
Leafy Spurge  
Medusahead  
Musk Thistle  
Perennial Pepperweed  
Scotch Thistle  
Spotted Knapweed  
Yellow Toadflax  
Houndstongue  
Dyers Wood

# EACH RANGER DISTRICT

## Ely:

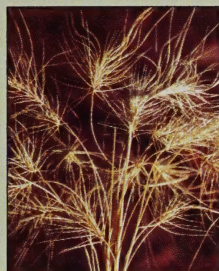
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Russian Knapweed  
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Scotch Thistle  
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Yellow Starthistle  
Yellow Toadflax

## Mountain City:

Canada Thistle  
Diffuse Knapweed  
Leafy Spurge  
Musk Thistle  
Perennial Pepperweed  
Scotch Thistle  
Spotted Knapweed  
Houndstongue  
Bull Thistle



Leafy Spurge



Medusahead



Common St. Johnswort



Dalmatian Toadflax



Yellow Starthistle

U.S.D.A., NAL

DEC 13 2007

CATALOGING PREP





# CANADA THISTLE

*Cirsium arvense*

**GROWTH HABITAT:** Perennial, grows up to 4 feet tall.

**LEAVES:** Deeply toothed with spines, hairy on the underside, varies quite a lot from plant to plant.

**STEMS:** Smooth to slightly hairy, branched at top.

**FLOWERS:** Small, bristly clusters,  $\frac{3}{8}$  to  $\frac{5}{8}$  inches in diameter, light lavender to deep rose-purple, male or female.

**ROOTS:** Extensive, creeping horizontal roots.

**SEEDS:** Smooth, light to dark brown,  $\frac{1}{8}$  inch long, tipped by a cupped conical point.

**REPRODUCES:** Vegetative from horizontal creeping roots or seeds.

**HABITAT:** Aspen, Cottonwood, Big Mtn. Sage, Riparian Shrub.





## DALMATIAN TOADFLAX

*Linaria dalmatica*

**GROWTH HABITAT:** Perennial, often over 3 feet tall, erect.

**LEAVES:** Light green, alternate, broad, heart-shaped, clasping the stem.

**STEMS:** Branching, light green, smooth and leafy.

**FLOWERS:** Snapdragon-type, bright yellow, tinged with orange, to 1-½ inch-long spurs, born in upper axils.

**ROOTS:** Vigorous, deep and extensive, creeping roots.

**SEEDS:** Numerous, irregularly angled.

**REPRODUCES:** By seeds and creeping roots.

**HABITAT:** Aspen, Riparian Grassland, Mtn. Big Sage.





## **DIFFUSE KNAPWEED**

*Centaurea diffusa*

**GROWTH HABITAT:** Annual or biennial, bushy, up to 2 feet tall. Rosette formed first year, flowering stalk elongates second year.

**LEAVES:** Grayish-green, alternate basal leaves, whorled, upper leaves much reduced. Covered with fine hair.

**STEMS:** Hairy, erect, single main stem from a rootstock branched near or above the base.

**FLOWERS:** Solitary, usually white, sometimes pink, rose, or lavender; seed-head bracts end as sharp, rigid spines.

**ROOTS:** Elongated taproot.

**SEEDS:** Oblong, dark brown or grey with longitudinal lines.

**REPRODUCES:** By seed.

**HABITAT:** Grasslands.





## HOARY CRESS (WHITETOP)

*Cardaria draba.*

**GROWTH HABITAT:** Perennial herb, up to 24 inches tall, erect, becoming lodges with age.

**LEAVES:** Alternate, lance-shaped and slightly irregular, grayish-green, base of upper leaves clasping stem.

**STEMS:** Stout branched toward top.

**FLOWERS:** Small, white, 4 petals, numerous flower branches, and dense flowers give plant a dense, white, flat-topped appearance.

**ROOTS:** Extensive, horizontally and vertically, frequent shoots arising from root stocks.

**SEEDS:** Reddish-brown, angular, egg-shaped, containing heart-shaped pods.

**REPRODUCES:** By seed, rootstock and creeping roots.

**HABITAT:** Basin Big Sage, Pinion/Juniper, Wyoming Big Sage, Riparian Shrub.





## LEAFY SPURGE

*Euphorbia esula* L.

**GROWTH HABITAT:** Perennial, grows up to 3 feet tall.

**LEAVES:** Alternate, long, narrow,  $\frac{1}{4}$  inch wide and 2 inches long, usually drooping.

**STEMS:** Branched near top, hairless, entire plant contains milky sap.

**FLOWERS:** Inconspicuous, surrounded by large heart-shaped, floral leaves that turn yellow-green near maturity.

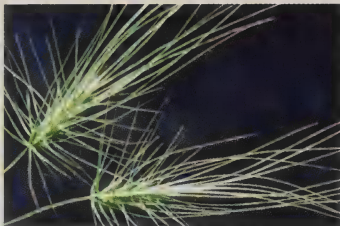
**ROOTS:** Vertical and horizontal. Vertical roots can penetrate 26 feet deep. Horizontal rhizomatous roots, near surface, extend outward from the parent plant 15 feet a year.

**SEEDS:** Produces up to 140 seeds per plant, viable up to 8 years or longer. Projects seeds up to 15 feet. Seeds float on water.

**REPRODUCES:** By large number of buds and by seed. Each bud is capable to producing new, independent plant.

**HABITAT:** Riparian Grassland, Riparian Shrub, Low Sage, Aspen.





## MEDUSAHEAD

*Taeniatherum caput-medusae* (L.) Nevski

**GROWTH HABITAT:** Inter annual grass, Erect to 24 inches.

**LEAVES:** Leaf blades to  $\frac{1}{8}$  inch wide, rolled more or less, slightly hairy.

**STEMS:** Jointed, slightly hairy.

**FLOWERS:** A long awned-spike, nearly as wide as long. Flowers in May and June. Bristly head persistent throughout winter after individual florets fall.

**ROOTS:** Fibrous.

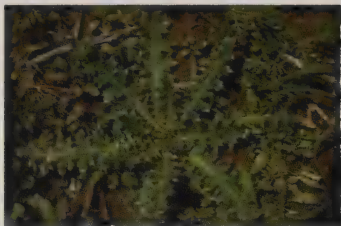
**SEEDS:** Awned, grass-like.

**REPRODUCES:** By seed.

**HABITAT:** Mtn. Shrub, Mtn. Big Sage, Mtn. Grassland, Wyoming Big Sage.







## MUSK THISTLE

*Carduus natans* L.

**GROWTH HABITAT:** Biennial, or winter annual, erect to seven feet tall. Freely branching. Rosette formed 1st year, flowering stem elongated 2nd year.

**LEAVES:** Dark green with light midribs, hairless on both sides, long sharp spines.

**STEMS:** Hairless.

**FLOWERS:** Solitary, terminal, nodding heads 1 ½ to 3 inches in diameter, deep rose to violet to purple.

**ROOTS:** Fleshy taproot, hollow near ground surface.

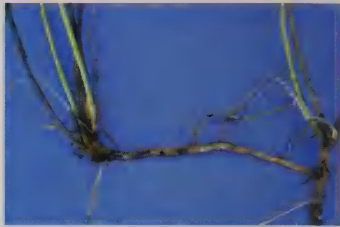
**SEEDS:** Can be excess of 20,000 per plant with 90% viable. 90% may germinate in the first two years. Seeds may germinate after 10 years in soil.

**REPRODUCES:** By seed only.

**HABITAT:** Mtn. Big Sage, Riparian Shrub, Riparian Grassland, Aspen, Pinion/Juniper, Basin Big Sage.







# PERENNIAL PEPPERWEED

*Lepidium latifolium*

**GROWTH HABITAT:** Erect perennial, numerous stems, spreading by seed and deep-seeded rootstocks.

**LEAVES:** Alternate, lance shaped bright green to gray-green, waxy, smooth to toothed margins, basil leaves larger than upper leaves.

**STEMS:** Branched, smooth, waxy, 1 to 3 feet tall.

**FLOWERS:** Raceme of small white flowers in dense clusters near the branch ends.

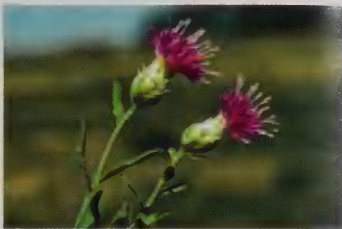
**ROOTS:** Deep-seated and spreading.

**SEEDS:** Small, rounded, flattened, slightly hairy,  $\frac{1}{16}$  inch long, reddish brown.

**REPRODUCES:** By seed and rootstock.

**HABITAT:** Cottonwood, Riparian Grassland, Riparian Shrub, Mtn. Big Sage.





## RUSSIAN KNAPWEED

*Centaurea repens* (L.) DC

**GROWTH HABITAT:** Perennial, up to 3 feet tall. May be in dense clumps. Greyish color.

**LEAVES:** Alternate, simple, of several types: upper – small, narrow, unbroken edge; stem leaves – intermediate in size, slightly toothed margins; basal leaves, deeply notched.

**STEMS:** Numerous branches, each ending with a single flower.

**FLOWERS:** Single, terminal, lavender, thistle-like, scaly seed head.

**ROOTS:** Dark brown to black and heavily scaled.

**SEEDS:** Flattened, ivory colored, retained in cup-shaped seed heads.

**REPRODUCES:** By seed and creeping rootstocks.

**HABITAT:** Grasslands, Low Sage, Mtn. Big Sage, Pinion/Juniper, Wyoming Big Sage.





## **SALT CEDAR**

*Tamarix spp.*

**GROWTH HABITAT:** Evergreen shrub or small tree, up to 30 feet tall.

**LEAVES:** Small scale-like, resemble cedars, salty residue that collects on foliage.

**STEMS:** Numerous, slender, upright and highly branched, smooth, reddish-brown bark, becomes furrowed and ridged with age.

**FLOWERS:** Pink to white, 5 petals.

**ROOTS:** Extensive, brown, to about 18 inches deep.

**SEEDS:** 500,000 seeds, small, easily dispersed by the wind.

**REPRODUCES:** By seed.

**HABITAT:** Riparian Grasslands.







## SCOTCH THISTLE

*Onopordum acanthium* L.

**GROWTH HABITAT:** Biennial, sometimes annual. Erect, up to 8 feet tall. Rosette formed 1st year, flowering stem elongates 2nd year.

**LEAVES:** Large coarsely lobed, hairy on both sides, velvety gray appearance. Margin lines with sharp, inconspicuous spines.

**STEMS:** Erect, branching, spiny leaf wings extend down on to stem covered with dense, fine hair.

**FLOWERS:** Solitary, terminal, 1 to 2 inches in diameter, violet to reddish colored. Bracts spine tipped.

**ROOTS:** Large, fleshy taproot.

**SEEDS:** Deep brown to black, distinctly wrinkled  $\frac{3}{16}$  inch long.

**REPRODUCES:** By seed only.

**HABITAT:** Basin Grassland, Wyoming Big Sage, Aspen, Cottonwood, Low Sage, Mtn. Big Sage.





## **SPOTTED KNAPWEED**

*Centaurea biebersteinii* DC.

**GROWTH HABITAT:** Biennial or short lived perennial, grows 1 to 3 feet tall.

**LEAVES:** Long and divided on lower, short and narrow above, covered with hairs.

**STEMS:** Erect with slender, wiry branches; covered with fine hairs.

**FLOWERS:** Seed heads mostly on branch tips, solitary, to 1 inch diameter. Pink to purple, rarely white, black tipped bracts on seed head.

**ROOTS:** Deep taproot.

**SEEDS:** Produces 1,000 seeds, viable up to 9 years.

**REPRODUCES:** By seed.

**HABITAT:** Cottonwood, Wyoming Sage, Pinion/Juniper, Low Sage, Mtn. Big Sage.





## COMMON ST. JOHNSWORT

*Hypericum perforatum* L.

**GROWTH HABITAT:** Perennial, erect, numerous branches.

**LEAVES:** Opposite, attached directly to stem, 1 inch long, oblong, covered with transparent dots.

**STEMS:** Woody at the base, 1 to 3 feet tall, rust colored, with ridges.

**FLOWERS:** Yellow,  $\frac{3}{4}$  inch diameter, numerous in flat-topped clusters, 5 petals with numerous stamens.

**ROOTS:** Branched and deep, some shallow and capable of sending up shoots.

**SEEDS:** Small, shiny black, with rough texture in a round, pointed 3-part seed pod.

**REPRODUCES:** By seed and from rhizomes.

**HABITAT:** Basin Big Sage, Mtn. Big Sage.





## **YELLOW STARThISTLE**

*Centaurea solstitialis* L.

**GROWTH HABITAT:** Annual, erect, rigid branching stems.

**LEAVES:** Basal leaves deeply lobed, upper leaves not lobed, small, sharply pointed.

**STEMS:** Rigid, covered with cottony fiber to 30 inches tall, winged structures.

**FLOWERS:** Yellow terminal flower bracts are tipped with straw-colored 1- $\frac{3}{4}$  inch thorn.

**ROOTS:** Taproot.

**SEEDS:** Smooth, light colored, often dark and mottled,  $\frac{1}{8}$ -inch long, notched just above the base.

**REPRODUCES:** By seed.

**HABITAT:** Low Sage, Mtn. Big Sage, Mtn. Shrub.





## **YELLOW TOADFLAX**

*Linaria vulgaris* L.

**GROWTH HABITAT:** Perennial, often to 3 feet tall.

**LEAVES:** Long and narrow, numerous, pale green, smooth and pointed, attached directly to the stem.

**STEMS:** Smooth, erect, and sometimes branched.

**FLOWERS:** Snapdragon-type, 1 to 1-½ inches long with spur, bright-yellow with deep-orange center.

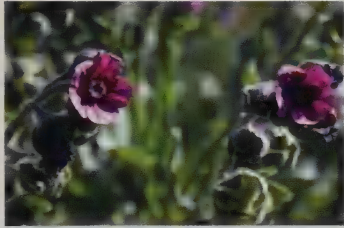
**ROOTS:** Woody, vigorous, well branched with many laterals.

**SEEDS:** Round, ½-inch diameter, dark-brown to black with a papery, circular wing.

**REPRODUCES:** By spreading seeds and creeping roots.

**HABITAT:** Aspen, Riparian Grassland, Mtn. Big Sage.





## HOUNDSTONGUE

*Cynoglossum officinale* L.

**GROWTH HABITAT:** Biennial grows up to 3 feet tall.

**LEAVES:** Velvety to the touch: Basal- broad lance shaped; upper, narrow and clasps the stem.

**STEMS:** Heavy, erect, branched above.

**FLOWERS:** Dark red to purple,  $\frac{1}{4}$  inch in diameter grows in clusters.

**ROOTS:** Taproot.

**SEEDS:** Fruit consists of 4 flattened bur-like nutlets, each  $\frac{1}{4}$  inch long with short barbed appendages.

**REPRODUCES:** By seed.

**HABITAT:** Mtn. Grassland, Mtn. Big Sage, Aspen, Riparian Shrub.





## DYERS WOAD

*Isatis tinctoria L.*

**GROWTH HABITAT:** Biennial or perennial up to 3 feet. tall. Rosette formed 1st year, flowering stem elongates the 2nd year.

**LEAVES:** Basal rosette leaves are long with soft, fine hairs. Stem leaves alternate, have short basal lobes clasping the stem and without hair.

**STEMS:** Woody, upper portion is branched.

**FLOWERS:** Small, yellow, 4 petals,  $\frac{1}{8}$  inch across.

**ROOTS:** Thick tap root which may exceed 5 feet in depth.

**SEEDS:** Plant has many, slightly pear-shaped, winged, black seed pods  $\frac{1}{2}$ -inch long that hang like ornaments. Each pod contains one seed.

**REPRODUCES:** By seed.

**HABITAT:** Mtn. Big Sage, Aspen, Basin Big Sage.





## BULL THISTLE

*Cirsium vulgare* (Savi) Ten.

**GROWTH HABITAT:** Biennial, erect, many spreading branches. Rosette formed 1st year, flowering stem elongated in 2nd year.

**LEAVES:** Green, sparsely hairy with short suppressed prickles on the surface, cottony below. Sharp spines on the margins.

**STEMS:** Stout, 2 to 5 feet tall with spinney wings from the leaves.

**FLOWERS:** Terminal, more or less clustered. 1-½ to 2 inches wide, flowers dark purple, bracts spine tipped.

**ROOTS:** Short, fleshy taproot.

**SEEDS:** Straw-colored, striped lengthwise with brown or black, a protrusion at one end.

**REPRODUCES:** By seed only.

**HABITAT:** Mtn. Big Sage, Riparian Shrub, Riparian Grassland, Aspen, Pinion/Juniper, Basin Big Sage.



# PLEASE HELP OUR WILD PLACES THE SPREAD OF N

## Why Are They Bad?

Noxious weeds are exotic plants that crowd out native vegetation. They upset the delicate balance of nature and spoil our beautiful landscapes. These invasive plants:

- Decrease diversity
- Threaten wildlife and fish habitats
- Degrade water quality
- Increase soil erosion
- Reduce recreation opportunities.

## What Can YOU Do?

### BE AWARE & PREPARE

- ✓ Check and clean your clothing, footwear, packs, bikes, and equipment for weed seeds.
- ✓ Brush animals before and after back country trips to remove weed seeds.
- ✓ Feed stock certified weed seed free feed several days before and during your trip.
- ✓ Learn to identify noxious weeds found in this area (Contact your local Extension Office or Weed District.)

## Protect Weed Free Areas

- ✓ Stay on established roads and trails
- ✓ Keep dogs on leash
- ✓ Camp only at existing campsites
- ✓ Avoid traveling or camping in weed infested areas
- ✓ Avoid disturbing vegetation and soil

# P US PROTECT S BY PREVENTING NOXIOUS WEEDS.

## Pull & Pack Out Weeds When Possible

- ✓ Pull weeds when soil is moist in the spring and fall to get entire root system – Wear gloves!
- ✓ Pull only weeds you can identify.
- ✓ Pulling is most effective on taproot species such as knapweeds, musk thistle, and houndstongue.
- ✓ Bag and pack out seed producing parts. Be careful not to spread seeds on the way home!
- ✓ Dispose of seeds in a sanitary landfill or burn them.

## Report It!

- ✓ Report small or new weed infestations to the responsible land management agency or landowner.
- ✓ Bring in a sample for identification.
- ✓ Report location of weed infestations found in wilderness areas on wilderness registration forms.

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